

The department of Molecular Imaging at the Center for Integrative Physiology and Molecular Imaging (CIPMM), has an open position for a

Bachelor Thesis

“Imaging Turtle Glial Cells with Super-Resolution STED Microscopy”

Description:

Freshwater turtles have emerged as an important model organism in neuroscience research. They have a very simple glial cytoarchitecture that can provide valuable insights into the evolution of glial cells in the mammalian brain. Turtles can tolerate prolonged anoxic conditions due to their unique metabolic adaptations and high glycogen content. Moreover, the turtle brain is characterized by a rich fiber system, particularly in the cerebellum. This high glycogen and fiber content can cause difficulty in the processing of the turtle brain tissue for immunohistochemical studies. This project aims to optimize immunofluorescence protocols for labeling turtles' glial cells for confocal and STED imaging.

Responsibilities:

- Optimizing immunostaining protocol for multiple glial markers with different staining conditions (antigen retrieval, SDS treatment, enzymatic treatment, etc.)
- Imaging of the stained tissue with super-resolution STED microscopy.
- Cryopreserving and cryosectioning of the fixed turtle brain.
- Assisting in tissue perfusion experiments and providing help with animal care.
- Summarizing findings for presentations and lab meeting discussions.

Qualifications:

- A background in biology, medicine, or related fields. Previous laboratory experience is preferred but not required.
- Effective organizational and English communication skills.
- The ability to work independently and collaboratively in a team environment.

Please send your application including certificates and CV to:

Jun.-Prof. Dr. Marcel Lauterbach
CIPMM/Building 48
66424 Homburg
E-Mail: Marcel.Lauterbach@uni-saarland.de
Phone: 06841 16 16410
<https://cipmm.uni-saarland.de/index.php/en/molecular-imaging>

